Lam Zhan Yang, Max

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Research Interests:

- Statistical Genetics
- Population Genetics
- Psychiatric Genetics
- Cognitive Genetics
- Psychometrics and Behavioral Phenotyping

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Biography

Dr Max Lam holds appointments at the Institute of Mental Health (Snr. Research Fellow) Lee Kong Chian School of Medicine, NTU (Adj. Assistant Professor). He received his PhD in 2016 from Yong Loo Lin School of Medicine, NUS, supported by the NMRC Research Training Fellowship. He also extends his expertise as a Visiting Scientist at The Broad Institute of MIT and Harvard, and Feinstein Institutes for Medical Research, USA. He is also the Deputy Scientific Director for the PRECISE-SG100K National Precision Medicine Initiative in Singapore.

Dr Lam's early career focused on investigating schizophrenia and psychosis risk in Singapore which led to identifying specific predictors of functional outcomes in young individuals at ultra-high risk for psychosis, contributing to the understanding of cognitive impairments in psychiatric illnesses. Subsequently, his research focused on precision medicine and statistical genetics investigation in psychiatric conditions and cognitive health. His work has elucidated the genetic architectures of cognitive function, and schizophrenia; and identified genes associated with cognitive ability and identified actionable variants for nootropic drug targets.

Dr Lam's sought to advance our understanding of the genetic underpinnings of neuropsychiatric conditions and cognitive health; paving the way for future research directions and therapeutic interventions in neuropsychiatry.

Selected Publications

- Lam, M.; Chen, C-Y.; Hill, W.D.; Xia, C.; Tian, R.; Levey, D.F.; Gelernter, J.; Stein, M.B.; Biogen Biobank Team; Hatoum, A.S.; Huang, H.; Maholtra, A.K.; Runz, H.; Ge, T.; Lencz, T. **Collective genomic segments with differential pleiotropic patterns between cognitive dimensions and psychopathology.** *Nat Commun* 13, 6868 (2022). https://doi.org/10.1038/s41467-022-34418-y

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- Lam, M.; Chia-Yen, C.; Yan, X.; Hill, W. D.; Trampush, J. W.; Yu, J.; Knowles, E.; Davies, G.; Stahl, E.; Huckins, L.; Liewald, D. C.; Djurovic, S.; Melle, I.; Christoforou, A.; Reinvang, I.; DeRosse, P.; Lundervold, A. J.; Steen, V. M.; Espeseth, T.; Räikkönen, K.; Widen, E.; Palotie, A.; Eriksson, J. G.; Giegling, I.; Konte, B.; Hartmann, A. M.; Roussos, P.; Giakoumaki, S.; Burdick, K. E.; Payton, A.; Ollier, W.; Chiba-Falek, O.; Koltai, D. K.; Need, A. C.; Cirulli, E. T.; Voineskos, A. N.; Stefanis, N. C.; Avramopoulos, D.; Hatzimanolis, A.; Smyrnis, N.; Bilder, R. M.; Freimer, N. A.; Cannon, T. D.; London, E.; Poldrack, R. A.; Sabb, F. W.; Congdon, E.; Conley, E. D.; Scult, M. A.; Dickinson, D.; Straub, R. E.; Donohoe, G.; Morris, D.; Corvin, A.; Gill, M.; Hariri, A. R.; Weinberger, D. R.; Pendleton, N.; Bitsios, P.; Rujescu, D.; Lahti, J.; Hellard, S. L.; Keller, M. C.; Andreassen, O. A.; Deary, I. J.; Glahn, D. C.; Chunyu, L.; Malhotra, A. K.; Lencz, T. **Identifying Nootropic Drug Targets via Large-Scale Cognitive GWAS and Transcriptomics.** Neuropsychopharmacol. 46, 1788–1801 (2021). https://doi.org/10.1038/s41386-021-01023-4

- Lim, K.*; Lam, M.*; Tay, J.; Karlsson, N.; Deshpande, S. N.; Thelma, B.; Ozaki, N.; Inada, T.; Sim, K.; Chong, S.-A.; Liu, J.; Lee, J. **Genome Wide Study of Tardive Dyskinesia in Schizophrenia.** Translational Psychiatry 2021, 11 (351). https://doi.org/10.1038/s41398-021-01471-y

- Lam, M.*; Awasthi, S.*; Watson, H. J.; Goldstein, J.; Panagiotaropoulou, G.; Trubetskoy, V.; Karlsson, R.; Frei, O.; Fan, C.-C.; De Witte, W.; Mota, N. R.; Mullins, N.; Brügger, K.; Lee, S. H.; Wray, N. R.; Skarabis, N.; Huang, H.; Neale, B.; Daly, M. J.; Mattheisen, M.; Walters, R.; Ripke, S. **RICOPILI: Rapid Imputation for COnsortias PIpeLIne.** *Bioinformatics* 2020, *36* (3), 930–933. doi.org/10.1093/bioinformatics/btz633

- Lam, M.; Hill, W. D.; Trampush, J. W.; Yu, J.; Knowles, E.; Davies, G.; Stahl, E.; Huckins, L.; Liewald, D. C.; Djurovic, S.; Melle, I.; Sundet, K.; Christoforou, A.; Reinvang, I.; DeRosse, P.; Lundervold, A. J.; Steen, V. M.; Espeseth, T.; Räikkönen, K.; Widen, E.; Palotie, A.; Eriksson, J. G.; Giegling, I.; Konte, B.; Hartmann, A. M.; Roussos, P.; Giakoumaki, S.; Burdick, K. E.; Payton, A.; Ollier, W.; Chiba-Falek, O.; Attix, D. K.; Need, A. C.; Cirulli, E. T.; Voineskos, A. N.; Stefanis, N. C.; Avramopoulos, D.; Hatzimanolis, A.; Arking, D. E.; Smyrnis, N.; Bilder, R. M.; Freimer, N. A.; Cannon, T. D.; London, E.; Poldrack, R. A.; Sabb, F. W.; Congdon, E.; Conley, E. D.; Scult, M. A.; Dickinson, D.; Straub, R. E.; Donohoe, G.; Morris, D.; Corvin, A.; Gill, M.; Hariri, A. R.; Weinberger, D. R.; Pendleton, N.; Bitsios, P.; Rujescu, D.; Lahti, J.; Le Hellard, S.; Keller, M. C.; Andreassen, O. A.; Deary, I. J.; Glahn, D. C.; Malhotra, A. K.; Lencz, T. **Pleiotropic Meta-Analysis of Cognition, Education, and Schizophrenia Differentiates Roles of Early Neurodevelopmental and Adult Synaptic Pathways.** Am J Hum Genet 2019, 105 (2), 334–350. https://linkinghub.elsevier.com/retrieve/pii/S000292971930237X

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Notable Research Awards & Grants from Past 5 Years

Name of Awards & Grants	Year Obtained
Target validation of Chloride Channel 2 (CLCN2) for treatment of cognitive impairment associated with schizophrenia (Project ID – H23G1a0008]	2023
Translational Psychiatry Research Programme - Cognitive Function in Psychiatric Illness (The CONCISE study)	2024
NIH RO1 Funding: Cognitive Genetics as an Window into Psychopathology	2024

Translating Research/Innovation Into Healthcare

- SG100K 已招募 9 万人 5 万人匿名数据开展精准治疗研究 (SG100K has recruited 90,000 people with 50,000 anonymous data to carry out precise treatment research) – LianHeZaoBao (21 Aug 2024)

- Cognitive Health of the Asian Population – Cognitive Health of the Asian Population (npm.sg) (10 Sep 2024)